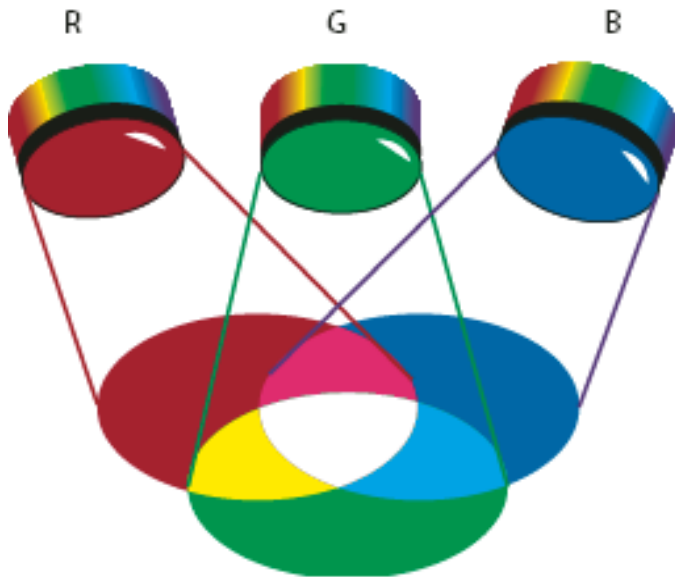


Understanding color

Knowing how colors are created and how they relate to each other lets you work more effectively in Photoshop. Instead of achieving an effect by accident, you'll produce consistent results thanks to an understanding of basic color theory.

Primary colors

Additive primaries are the three colors of light (red, green, and blue) that produce all the colors in the visible spectrum when added together in different combinations. Adding equal parts of red, blue, and green light produces white. The complete absence of red, blue, and green light results in black. Computer monitors are devices that use the additive primaries to create color.



Additive colors (RGB)

R. Red G. Green B. Blue

Subtractive primaries are pigments, which create a spectrum of colors in different combinations. Unlike monitors, printers use subtractive primaries (cyan, magenta, yellow, and black pigments) to produce colors through subtractive mixing. The term "subtractive" is used because the primary colors are pure until you begin mixing them together, resulting in colors that are less pure versions of the primaries. For example, orange is created through the subtractive mixing of magenta and yellow together.



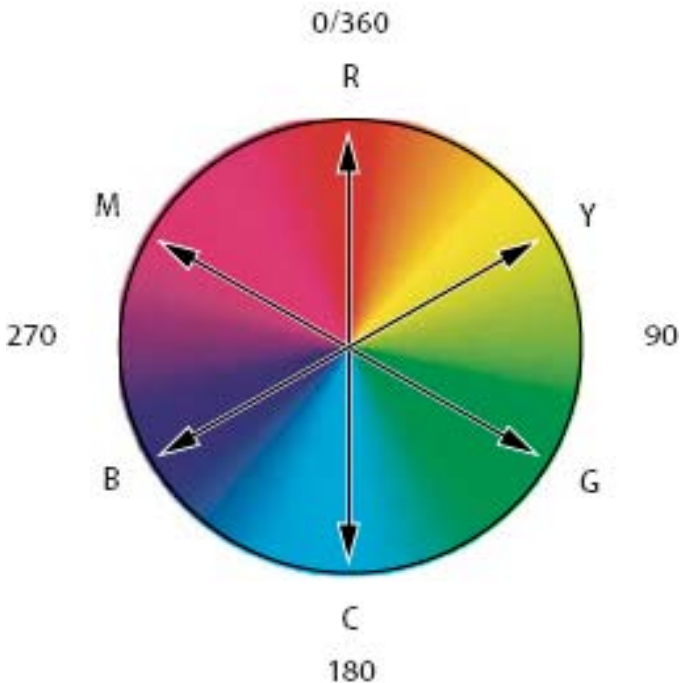


Subtractive colors (CMYK)

C. Cyan M. Magenta Y. Yellow K. Black

The color wheel

If you're new to adjusting color components, it helps to keep a standard color wheel diagram on hand when you work on color balance. You can use the color wheel to predict how a change in one color component affects other colors and also how changes translate between RGB and CMYK color models.



Color wheel

R. Red Y. Yellow G. Green C. Cyan B. Blue M. Magenta

For example, you can decrease the amount of any color in an image by increasing the amount of its opposite on the color wheel—and vice versa. Colors that lie opposite each other on the standard color wheel are known as **complementary** colors. Similarly, you can increase and decrease a color by adjusting the two adjacent colors on the wheel, or even by adjusting the two colors adjacent to its opposite.

In a CMYK image, you can decrease magenta either by decreasing the amount of magenta or by increasing its complement, which is green (the color on the opposite side of the color wheel from magenta). In an RGB image, you can decrease magenta by removing red and

blue or by adding green. All of these adjustments result in an overall color balance containing less magenta.

Related Information

[Choose a color with the Adobe Color Picker](#)

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